Director's Review Post Mortem

- Review information
  - www.usatlas.bnl.gov/HL-LHC/reviews/Director's_Review_Jan_2016/
    - access: user=review ; pwd=p2-lhc
  - reviewer team chaired by Steve Ritz (UCSC)
    - Silicon: Lipton (FNAL), Canepa (FNAL), Jawahery (Maryland)
    - Calorimeters: Marlow (Princeton), Rameika (FNAL), Tecchio (Michigan)
    - Muons+TDAQ: Wood (Northeastern), Heeger (Yale), Wolbers (Oregon St.)
    - Management: Grannis (Stony Brook), Denisov (FNAL), Patterson (Cornell). Reichanadter (SLAC)
- Review was generally very positive and helpful
  - "This was an excellent review of an excellent team", "Proceed to CDR"
  - THANKS VERY MUCH for all your hard work !
- Main comments
  - improve the Project Execution Plan
    - better description of flowdown: Science Goals → Science Requirements → Scope
    - have PEP reviewed by managers of recent MREFC projects (LSST, IceCube, LIGO,...)
  - better description of scope contingency mitigation plans
    - "the UK will pick up our dropped scope" is not a mitigation plan
  - too much use of jargon and technical details in PEP and plenary presentations
  - + many detailed and helpful suggestions

CDR Agenda

	7:30AM	8-8:30	8:30 - Noon	Noon-1PM	1-4PM	4-4:30PM
Tuesday (3/8)	bldg open	Exec session	Plenary	Lunch	PM/Cost/Sched/Sys Eng - L Ar Cal Technical Review - Muon System	Exec Sess
Wednesday (3/9)	bldg open	Exec session	PM/Cost/Sched - Tile Calorimeter Technical Review - Trigger/DAQ	Exec lunch	PM/Cost/Sched - Muon System Technical Review - L Ar Cal	Exec Sess
Thursday (3/10)	bldg open	Exec session	PM/Cost/Sched - Trigger/DAQ Technical Review - Tile Calorimeter	Lunch + homework	Exec session/writing/closeout	closeout

Proposed Steps to CDR

Wed, 27-Jan	DR de-briefing in L2 Managers Meeting • discuss CDR prep timeline and talks
Fri, 29-Jan	Updated PEP draft, Ch's 1-4, 6
Mon, 01-Feb	Distribute PEP draft to external readers
Mon, 08-Feb	Decide on Structure of CDR Sessions/Talks • plenary session: Mike, Srini, Hal • technical sessions: talks & other material • PM/Cost/Schedule sessions: talks & other material • attendance: L2 managers, experts, etc
Wed, 10-Feb	Draft "What if" scenarios & Revised Scope Contingency • discuss in L2 Managers Meeting
Tue, 16-Feb	Budgets and Schedules Frozen (NSF & DOE)
Wed, 17-Feb	Draft Review Web page
Fri, 19-Feb	Final Costbooks, Timeline Charts, and BoEs • L2 Summary table & chart • L2 sub-system tables & charts
Mon, 22-Feb	Installation & Commissioning Cost/Effort Estimate
Tue, 23 Feb	Post Final PEP and other documents
Mon-Fri 22-26-Feb	Practice Talks
Tue-Thu, 08-10-Mar	Review

What-If Scenarios & Scope Conting.

- "What-If" Scenarios from CDR charge
  - "Describe 'what if' scenarios that have been examined by the project planners and comment on the sensitivity of the TPC to this analysis and its influence on the TPC cost range?"
  - Aim for 1 "what-if" per L4 deliverable (think like a reviewer)
    - describe: scenario, probability, impact, mitigation strategy
    - very similar to risk analysis in BoE, but more of a "story" (?)
- Scope Contingency
  - update list of Scope Contingency items
    - item, decision timing, impact, mitigation
  - timing: look for items that can be dropped late in the game
  - mitigation: how the strategy affects ATLAS overall
- Present both of these at L2 Managers Meeting on 10-Feb

CDR L2 Talks Content (discussion)

- Proposal from Mike Tuts
  - Plenary Session: overview talks from Mike, Srini, Hal
    - exact breakdown tbd
  - Technical Breakout: talks from Construction and R&D Managers
  - Cost/Schedule/PM Breakout: Construction Manager talk + drilldowns
- Attendance
  - Management Team
  - L2 Construction and R&D Managers
  - Deliverable-level Experts (?) - especially for high-cost deliverables

Technical Breakouts

- L2 manager talk (with standard formats for each slide) – 30 min talk time?
  1. Intro L2 WBS, L2 name, Name, Institution, experience/bio of L2 manager
  2. One slide big picture intro – why is this important to the science goals
  3. Point to scoping document relevant chapter for more details
  4. Table with international scope (maybe with ATLAS WBS? In case they look at scoping document) with US ATLAS scope identified with US WBS and % of US contribution identified at the deliverable level
  5. NSF Scope summary illustrated with picture/diagram
  6. A standard flow-down table with columns for science requirements (performance) - technical requirements for this subsystem (L4) – WBS L3/L4 institutions/lead name – expertise/experience of institution
  7. WBS dictionary for subsystem – for the record and for committee to evaluate if it is complete
  8. Walk through the WBS - a slide(s) for each WBS deliverable (L4) with technical description (again including US %), institutions involved, technical challenges/readiness/status, brief description of enabling R&D to be done and when it must be completed
- R&D manager talk (with standard formats for each slide) – 20 min talk time?
  1. Intro of R&D manager – experience/bio
  2. Table summary with WBS L3/L4 item, associated enabling R&D, completion date (maybe same as L2 manager slide to tie into what they just heard) and institutions involved
  3. Walk through by construction WBS detailing the associated R&D activities identifying key issues to be addressed and key dates when work is expected to be done. Not quite sure how to say it, but identify those R&D items that are open questions (eg lead to technical down selects) vs those that are 'simple' (eg make radiation hardness measurements)

Cost/Schedule/PM Breakouts

- L2 manager talk (with standard formats for each slide) – 30 min talk time?
  1. Intro L2 WBS, L2 name, Name, Institution, experience/bio of L2 manager
  2. One slide big picture intro – why is this important to the science goals and how did that flow down to your scope
  3. NSF Scope summary illustrated with picture/diagram – simpler version for the non-experts on this committee
  4. Table with international scope (maybe with ATLAS WBS?) with US ATLAS scope identified with US WBS and % of US contribution identified at the deliverable level
  5. Org Chart for NSF scope organization for this WBS system and international ATLAS organization for that overall system – how it fits in to the big picture. How does this subsystem connect to international subsystem organization? Who are the international institutions involved? Explain the project leader role, the institute board etc
  6. Relevance of scoping document to US cost estimation. Are you using any of that information? If so, discuss reliability of that estimate (can it be tied to one of the GAO methodologies?)
  7. Cost evaluation methodology you used – Use the GAO table language, eg tell them it is based on "Analogy" or whatever seems appropriate
  8. Cost documentation – walk them through the structure of a typical BOE (maybe an opportunity to steer them to that one for the drill down?)
  9. Schedule evaluation methodology
  10. Risk identification methodology
  11. Scope contingency methodology
  12. Budget Contingency – say it is top down, based on PM assessment of the level of maturity
  13. Cost Tables – discuss cost drivers
  14. Schedule with appropriate milestones – discuss key dates, discuss external dependencies, discuss float (Schedule Contingency)
  15. Risk registry – discuss risk mitigation strategy (not that other country will pay!!)
  16. What-If scenarios
- 16. BOE drill downs: Experts available by phone or in person